CLAIMS

What is claimed is:

1. A method, comprising the step of:

obtaining a value, of one or more values from one or more nested procedures, for a variable that is undefined within one procedure that is nested within the one or more nested procedures.

2. The method of claim 1, further comprising the step of automatically determining the value from the one or more nested procedures.

3. The method of claim 1, further comprising the step of assigning the value to the variable that is undefined within the one procedure.

4. The method of claim 1, further comprising the steps of:

establishing a procedure hierarchy that comprises the one procedure and the one or more nested procedures; and

determining from the procedure hierarchy the value for the variable that is undefined within the one procedure.

5. The method of claim 4, wherein the value of the variable that is undefined in the one procedure comprises a most recently defined value in relation to the one procedure, wherein the step of determining comprises the steps of:

traversing the procedure hierarchy;

identifying from the procedure hierarchy, the most recently defined value in relation to the one procedure; and

returning to the one procedure, the most recently defined value in relation to the one procedure.

6. The method of claim 5, wherein the value comprises a first value, wherein the step of traversing comprises the steps of:

determining that the variable that is undefined within the one procedure is undefined within a first scope associated with the one procedure;

identifying from the procedure hierarchy, one nested procedure that calls the one procedure;

determining that the variable that is undefined within the one procedure is defined within a second scope associated with the one nested procedure, wherein the variable that is undefined with the one procedure is defined by a second value associated with the second scope; and

returning to the variable that is undefined within the one procedure, the second value associated with the second scope associated with the one nested procedure.

7. The method of claim 6, further comprising the steps of:

identifying from the procedure hierarchy, a second nested procedure that calls the one nested procedure upon determination that the variable that is undefined within the one procedure is undefined within the second scope associated with the one nested procedure; and

assigning a default value to the variable that is undefined within the one procedure, wherein the variable that is undefined within the one procedure is undefined within the one or more nested procedures in the procedure hierarchy associated with the one procedure.

8. The method of claim 5, further comprising the step of:

traversing the procedure hierarchy until an identification of the most recently defined value in relation to the one procedure.

9. The method of claim 1, wherein the one procedure comprises the one or more expect statements, the method further comprising the step of:

limiting to the value, a duration of time to wait for one or more responses associated with the one or more expect statements.

10. The method of claim 9, further comprising the steps of:

determining an expiration of the duration of time to wait for the one or more responses associated with the one or more expect statements;

associating the value of the variable that is undefined within the one procedure with the one or more expect statements of the one or more expect statements;

maintaining a timer associated with the one expect statement; and

evaluating the timer and the value of the variable that is undefined within the one procedure to determine the expiration of the duration of time associated with the one expect statement.

11. The method of claim 1, wherein the one procedure comprises one or more expect statements, the method further comprising the steps of:

executing the one or more expect statements;

waiting for the one or more responses associated with the one or more expect statements; and

executing one or more actions associated with the one or more expect statements upon failure to receive the one or more responses before an expiration of a duration of time.

12. The method of claim 1, further comprising the steps of:

invoking a program that comprises one or more expect statements from a host system;

establishing a communication with a remote system;

executing on the remote system one or more commands associated with the one or more expect statements of the program;

receiving one or more responses associated with the one or more commands before an expiration of a duration of time to wait for the one or more responses; and

processing the one or more responses.

13. The method of claim 12, wherein the program comprises the one procedure and the one or more nested procedures, wherein the one procedure comprises the one expect statement, wherein the step of invoking comprises the steps of:

executing from the program, the one procedure;

invoking an expect module upon executing the one expect statement;

obtaining the value for the variable that is undefined within the one procedure from the one or more nested procedures;

associating the value for the variable that is undefined within the one procedure with the one expect statement; and

limiting to the value for the variable that is undefined within the one procedure, the duration of time to wait for the one or more responses from the remote system.

14. The method of claim 13, wherein the step of invoking the expect module comprises the steps of:

invoking a traversal module;

employing the traversal module to traverse a procedure hierarchy to identify the value for the variable that is undefined within the one procedure associated with the one expect statement of the one procedure; and

returning the value for the variable that is undefined within the one procedure associated with the one expect statement of the one procedure to the expect module.

15. The method of claim 13, wherein the value of the variable that is undefined within the one procedure comprises a most recently defined value in the procedure hierarchy in relation to the one procedure, wherein the step of obtaining comprises the steps of:

determining if the value for the variable that is undefined within the one procedure is defined within a scope associated with the one procedure;

traversing a procedure hierarchy wherein the value for the variable that is undefined within the one procedure is undefined in the scope of the one procedure; and

returning to the one procedure, the most recently defined value in the procedure hierarchy in relation to the one procedure.

16. The method of claim 15, wherein the scope comprises a first scope, wherein the step of traversing the procedure hierarchy comprises the steps of:

associating with the one procedure, one nested procedure of the one or more nested procedures in the procedure hierarchy, wherein the one nested procedure calls the one procedure;

employing a change scope command to traverse from the first scope associated with the one procedure to a second scope associated with the one nested procedure; and

determining if the variable that is undefined within the one procedure is undefined within the second scope associated with the one nested procedure.

17. The method of claim 16, further comprising the steps of:

traversing the one or more nested procedures in the procedure hierarchy upon determination that the variable that is undefined within the one procedure is undefined within the second scope associated with the one nested procedure; and

assigning a default value to the variable that is undefined within the one procedure, wherein the variable that is undefined within the one procedure is undefined within the one or more nested procedures in the procedure hierarchy associated with the one procedure.

18. An apparatus, comprising:

a traversal module that identifies a value for a variable associated with one procedure, from one or more values associated with one or more nested procedures, wherein the variable is undefined within the one procedure, wherein the one procedure is nested in the one or more nested procedures.

19. The apparatus of claim 18, wherein the traversal module traverses through the one or more nested procedures associated with the one procedure until an identification of the value associated with the one procedure within one of the one or more nested procedures associated with the one procedure.

20. The apparatus of claim 18, further comprising:

an expect module that executes an expect statement and employs the value to limit a duration of time to wait for one or more responses.

21. The apparatus of claim 20, wherein the value is defined within a scope of one nested procedure of the one or more nested procedures.

22. The apparatus of claim 21, wherein the expect module extends the Expect scripting language to obtain the value for the variable from the one nested procedure of the one or more nested procedures;

wherein the expect module employs the Expect scripting language to evaluate the one expect statement based on the value from the one nested procedure of the one or more nested procedures.

23. The apparatus of claim 21,

wherein the expect module determines that the variable is undefined within a scope associated with the one expect statement;

wherein the expect module invokes the traversal module to obtain the value for the variable that is undefined within the scope associated with the one expect statement, wherein the expect module limits to the value a duration of time to wait for one or more responses associated with the one expect statement to the value.

24. An article, comprising:

one or more computer-readable signal-bearing media;

means in the one or more media for obtaining a value of one or more values from one or more nested procedures, for a variable that is undefined within one procedure that is nested within the one or more nested procedures.

25. The article of claim 24, further comprising:

means in the one or more media for automatically determining the value for the variable that is undefined within the one procedure from the one or more nested procedures; and

means in the one or more media for assigning the value for the variable that is undefined within the one procedure to the variable that is undefined within the one procedure.

26. The article of claim 24, further comprising:

means in the one or more media for establishing a procedure hierarchy comprising the one procedure and the one or more nested procedures; and

means in the one or more media for determining the value for the variable that is undefined within the one procedure from the procedure hierarchy.

27. The article of claim 26, wherein the value comprises a most recently defined value in relation to the one procedure, the article comprising:

means in the one or more media for traversing the procedure hierarchy;

means in the one or more media for identifying from the procedure hierarchy, the most recently defined value in relation to the one procedure; and

means in the one or more media for returning the most recently defined value in relation to the one procedure to the one procedure.

28. The article of claim 27, further comprising:

means in the one or more media for traversing the procedure hierarchy until identifying the most recently defined value in relation to the one procedure.

29. The article of claim 24, further comprising:

means in the one or more media for limiting to the value for the variable that is undefined within the one procedure, a duration of time to wait for one or more responses associated with one expect statement of one or more expect statements, wherein the one procedure comprises the one or more expect statements.

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